

## **ABSTRACT OF THE DISCLOSURE**

A method is proposed to manufacture a precise multi-pole magnetic component for using in magnetic encoders. A special layout of the circuit pattern is designed and formed on a printed circuit board (PCB). Alternate and regular magnetic field is induced according to Ampere's law after a current flowing through the circuit on the PCB. The multi-pole magnetic component with fine magnetic pole pitch is achieved by forming the high-density circuit patterns on a substrate using the PCB technology.